

PATENT

Navy Case No. 84,622  
Application No. 09/864,373AMENDMENTS TO THE CLAIMS

1-6. (Cancelled).

7. (Previously Presented) Apparatus for detecting a molecule in vivo or in vitro comprising:

a reagent tag that fluoresces when subjected to near infrared light emissions injected into the molecule;

a light source that emits light in a wavelength comprising near infrared light emissions;

a sample holder for holding the molecule for analysis, comprising:

an uptake channel; and,

an analysis target area having an activated matrix therein, wherein a matrix is activated by binding a capture molecule for the molecule to the matrix;[[.]]

an optical system comprising a lens; and

a detector wherein the light source causes the dye to fluoresce within the sample holder wherein the detector detects the dye.

8. (Original) The apparatus according to claim 7 wherein the light source is a laser diode.

9. (Original) The apparatus according to claim 7 wherein the optical system comprises a fiber optic lens and a bandpass filter.

10. (Original) The apparatus according to claim 7 wherein the detector comprises a photodiode coupled to an LCD.

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11. (Previously Presented) The apparatus of claim 7 wherein the analysis target area comprises an area composed of a solid phase within the channel having physical barriers on opposite sides of the area .

12. (Currently Amended) Apparatus for detecting a molecule in vivo or in vitro comprising:

a reagent tag that fluoresces when subjected to near infrared light emissions injected into the molecule;

a light source that emits light in a wavelength comprising near infrared light emissions;

a sample holder for holding the molecule for analysis, comprising:

an uptake channel having an analysis target area having an activated matrix therein, wherein a matrix is activated by binding a capture molecule for the molecule to the matrix; and,

an analysis target area comprising an area free of solid phase;

an optical system comprising a lens; and

a detector wherein the light source causes the dye to fluoresce within the sample holder wherein the detector detects the dye~~The apparatus according to claim 7 wherein the analysis target area comprises an area free of solid phase.~~

13-14. (Cancelled)

15. (Currently Amended) The apparatus according to claim 12, further comprising:

a reservoir extending from a side of the uptake channel having a diameter larger than a diameter of the uptake channel; and,

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an extension the from uptake channel into the reservoir wherein a bubble, for analysis, is formed on an end of the extension, wherein the bubble is the analysis target area.

16. (Canceled)

17. (Previously Presented) The apparatus according to claim 7, wherein the reagent tag comprises a laser dye.

18. (Previously Presented) The apparatus according to claim 17, wherein the laser dye is soluble in water and binds electrostatically to albumin, lipoproteins, and gamma globulins.

19. (Previously Presented) The apparatus according to claim 18, wherein the laser dye comprises a negative charge.

20. (Previously Presented) The apparatus according to claim 19, wherein the laser dye has the formula  $C_{45}H_{48}N_3O_{13}S_5Na_3$ .